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10/723,033	11/26/2003	Prakash Parayil Mathew	133276IT/YOD GEMS:0234	8841

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EXAMINER	
LAROSE, COLIN M	

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/723,033	MATHEW ET AL.	
	Examiner	Art Unit	
	COLIN M. LAROSE	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 March 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13-15 and 17-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-11,13-15 and 17-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Amendments and Remarks

1. Applicant's amendments and remarks dated 14 March 2008, have been entered and made of record.

Response to Amendments and Remarks

2. Applicant's arguments regarding the § 101 rejections of claims 25-27 have been considered but are not persuasive. Accordingly, the previous rejections have been maintained. Applicant is correct that they are essentially "product-by-process" claims, however, images constitute products that are ineligible for patenting *per se* since they are classified as "non-functional descriptive material" (i.e., they are mere arrangements of data). See MPEP § 2106.01:

> Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture, or composition of matter and should be rejected under 35 U.S.C. 101. Certain types of descriptive material, such as music, literature, art, photographs, and mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture, or composition of matter.

3. Applicant's amendments are sufficient to overcome the previous § 102 and § 103 rejections, which have been withdrawn. However, new grounds of rejection appear below based on newly-discovered prior art.

4. Applicant has also traversed the official notice of claim 9 because allegedly "the mere teaching of grey scale images is insufficient to anticipate or render obvious claim 9." Applicant believes that the official notice of images conventionally being represented in greyscale "does not provide the requisite likelihood of success in this regard." In response, Examiner has

provided evidence demonstrating that it would have been obvious for Siegel's processed images to be represented in grey scale (as opposed to color or binary).

Claim Rejections - 35 USC § 101

5. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

> Nonfunctional descriptive material that does not constitute a statutory process, machine, manufacture or composition of matter and should be rejected under 35 U.S.C. Sec. 101. Certain types of descriptive material, such as music, literature, art, photographs and mere arrangements or compilations of facts or data, without any functional interrelationship is not a process, machine, manufacture or composition of matter. USPTO personnel should be prudent in applying the foregoing guidance. Nonfunctional descriptive material may be claimed in combination with other functional descriptive multi-media material on a computer-readable medium to provide the necessary functional and structural interrelationship to satisfy the requirements of 35 U.S.C. Sec. 101. The presence of the claimed nonfunctional descriptive material is not necessarily determinative of nonstatutory subject matter. For example, a computer that recognizes a particular grouping of musical notes read from memory and upon recognizing that particular sequence, causes another defined series of notes to be played, defines a functional interrelationship among that data and the computing processes performed when utilizing that data, and as such is statutory because it implements a statutory process.

6. Claims 25-27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows. Claims 25-27 recite an "image … stored on a computer-readable medium," which does not impart *functionality* to a computer or computing device, and is thus considered nonfunctional descriptive material. Such nonfunctional descriptive material, in the absence of a functional interrelationship with a computer, does not constitute a statutory process, machine, manufacture or composition of matter and is thus non-statutory per se. See MPEP § 2601.01.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-7, 10, 13, 14, 19, 20, 22, 23, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 7,149,353 by Siegel et al. ("Siegel") in view of U.S. Patent 5,664,027 by Ittner ("Ittner").

Regarding claims 1, 19, and 22, Siegel discloses a computer-implemented method/system/program (figures 1-3) for processing digital images comprising:

analyzing image data to identify indicia apparent in an image reconstructed from the image data (step 124, figure 3: OCR performed to identify text);

identifying one or more region in which the indicia appear in the image, including text in a horizontal orientation (step 124, figure 3: the OCR process identifies the regions—defined by position and size—of text; see figure 5);

comparing the indicia to a list of indicia to remain decipherable or to a list of indicia to be rendered undecipherable in the reconstructed image (step 126, figure 3: the OCRed text is compared to a predetermined list of criteria to determine whether to suppress the text—see e.g., column 7/53 through column 8/16); and

based upon the comparison, replacing image data for at least one region with replacement data to render indicia undecipherable in an image reconstructed from the image data (step 128, figure 3: a substitute image with suppressed text is generated; column 2/38-43: the substitute image is generated by removing features, i.e., text to be suppressed).

Siegel does not appear to disclose that vertically oriented text is identified, as claimed. Rather, Siegel illustrates the identification of only horizontal text, as shown in figure 5.

Ittner discloses a method for determining the orientation of lines of text in an image. In particular, Ittner recognizes that an image may contain both vertically and horizontally oriented text, and in order to perform OCR on text, it is necessary to ascertain its orientation (column 1/9-32). Accordingly, Ittner teaches a routine that determines the orientation of text contained in an image (see figure 3). In view of these teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siegel by Ittner to achieve the claimed invention by identifying regions in the image containing text in either a vertical or horizontal orientation so that suitable OCR processing can be carried out for differently oriented text.

Regarding claims 10, 20, and 23, Siegel discloses a computer-implemented method/system/program (figures 1-3) for processing digital images comprising:

analyzing image data via optical character recognition to identify textual indicia apparent in an image reconstructed from the image data (step 124, figure 3: OCR performed to identify text);

identifying one or more region in which the indicia appear in the image, including text in a horizontal orientation (step 124, figure 3: the OCR process identifies the regions—defined by position and size—of text; see figure 5);

comparing the identified textual indicia to a list of textual indicia to remain decipherable in the reconstructed image (step 126, figure 3: the OCRed text is compared to a predetermined list of criteria to determine what text is to remain decipherable—see e.g., column 7/53 through column 8/16); and

based upon the comparison, replacing image data for at least one region with replacement data to render indicia in the at least one region undecipherable in an image reconstructed from the image data, and wherein textual indicia to remain decipherable in the reconstructed image is not replaced with replacement data (step 128, figure 3: a substitute image with suppressed text is generated; column 2/38-43: the substitute image is generated by removing text to be suppressed and retaining text not to be suppressed).

Siegel does not appear to disclose that vertically oriented text is identified, as claimed. Rather, Siegel illustrates the identification of only horizontal text, as shown in figure 5.

Ittner discloses a method for determining the orientation of lines of text in an image. In particular, Ittner recognizes that an image may contain both vertically and horizontally oriented text, and in order to perform OCR on text, it is necessary to ascertain its orientation (column 1/9-32). Accordingly, Ittner teaches a routine that determines the orientation of text contained in an image (see figure 3). In view of these teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siegel by Ittner to achieve the claimed

invention by identifying regions in the image containing text in either a vertical or horizontal orientation so that suitable OCR processing can be carried out for differently oriented text.

Regarding claim 2, Siegel discloses the identifying indicia include text defined by pixels of the image reconstructed from the image data (see figures 4-6).

Regarding claim 3, Siegel discloses the indicia are identified by optical character recognition (124, figure 3).

Regarding claims 4 and 14, Siegel discloses the replacement data masks the one or more region with a substantially uniform pixel intensity (see e.g., figure 6).

Regarding claim 5, Siegel discloses identifying indicia to remain decipherable in the image reconstructed from the image data, and wherein the step of replacing the image data only replaces data for at least the one region and not for regions in which the indicia to remain decipherable appear (see e.g., figure 6).

Regarding claim 6, Siegel discloses allowing desired indicia to remain decipherable in the image reconstructed from the image data (see e.g., figure 6).

Regarding claims 7 and 13, Siegel discloses the desired indicia include indicia providing a general description of the image subject matter or a date (see e.g., figure 6: the text provides a general description of the subject matter of the image).

Regarding claims 25 and 26, Siegel teaches producing an image generated by the method of claims 1 and 10 and stored in a computer-readable medium (such as shown in figure 6).

9. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 7,149,353 by Siegel et al. ("Siegel") in view of U.S. Patent 5,664,027 by Ittner ("Ittner"), as applied to claim 1, and further in view of U.S. Patent 5,568,571 by Willis et al. ("Willis").

Regarding claim 9, Siegel does not appear to expressly disclose that the image data encodes a grey scale image, i.e., that Siegel's images are encoded in a grey scale format.

Willis discloses a system for "processing a digitally stored image on a digital computer" (see Abstract). The system scans and digitizes an image, separate text from non-text components, enhances and deskews the image, compresses the resulting image file, and stores the enhanced, deskewed, and compressed file for later transmission, optical character recognition, or high quality printing or viewing of the image.

Willis further teaches:

"[S]tandards have developed for digitizing images to reduce the amount of information required to store, reproduce, or work with them on a computer. Images have been scanned and digitized and stored in black and white, purely binary (digital) representations. * * *

"Another method for digitizing an image is called "grey scaling." It involves dividing up a picture into pixels (or groups of dots) and then encoding the intensity or shade of the pixel through a numerical scaling scheme. The grey shade is reproduced according to the scaler value associated with the pixel. Similar scaling techniques can also be used to impart color information into image data. (see columns 1-2).

Accordingly, Willis teaches that images are conventionally encoded into "grey scale" images, which are composed of pixels that are gradations of black and white (i.e., "grey") rather than purely black or white, or even "color." Willis recognizes that grey scale images are more

pleasing than binary black-and-white images, however, they encompass much more data and therefore require more storage space. (column 2) On the other hand, grey scale image are three to four times smaller than color images, which require massive amounts of storage space. Therefore, there are pros and cons associated with utilizing any of the three standard image formats—binary black-and-white, grey scale, and color—as described by Willis. While Siegel does not expressly disclose employing any particular encoding of images, it would have been obvious in view of Willis to utilize a grey scale encoding since Willis teaches that encoding images in grey scale for further processing via computer-implemented processes is conventional and, along with binary and color, is one of the three standard methods by which to represent image data in a digital format. Since Siegel does not limit his system to any particular type of image encoding or otherwise disclose the system is inoperable when used to process any particular types of images, those skilled in the art would enjoy a reasonable expectation of success when attempting to process grey scale images using Siegel's disclosed methods.

10. Claims 8, 11, 15, 17, 18, 21, 24, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 7,149,353 by Siegel et al. ("Siegel") in view of U.S. Patent 6,823,203 by Jordan ("Jordan") and U.S. Patent 5,664,027 by Ittner ("Ittner").

Regarding claims 15, 21, and 24, Siegel discloses a computer-implemented method/system/program (figures 1-3) for processing digital images comprising:

analyzing image data via optical character recognition to identify textual indicia apparent in an image reconstructed from the image data (step 124, figure 3: OCR performed to identify text);

identifying one or more region in which the indicia appear in the image, including text in a horizontal orientation (step 124, figure 3: the OCR process identifies the regions—defined by position and size—of text; see figure 5);

comparing the identified textual indicia to a list of textual indicia to remain decipherable in the reconstructed image (step 126, figure 3: the OCRed text is compared to a predetermined list of criteria to determine what text is to remain decipherable—see e.g., column 7/53 through column 8/16); and

based upon the comparison, replacing image data for at least one region with replacement data to render indicia in the at least one region undecipherable in an image reconstructed from the image data, and wherein textual indicia to remain decipherable in the reconstructed image is not replaced with replacement data (step 128, figure 3: a substitute image with suppressed text is generated; column 2/38-43: the substitute image is generated by removing text to be suppressed and retaining text not to be suppressed).

Siegel's system for redacting certain features of an image appears to be applicable to a wide range of image data in digital form. However, Siegel does not appear to disclose that the images are specifically medical diagnostic images and that the textual indicia represent a patient's identity, as claimed.

Jordan discloses a system for removing sensitive data from diagnostic images. In particular, Jordan teaches that in certain circumstances, it is desirable to remove private data, such as a patient's identity, from medical images to be used for training or public presentation (column 8/43-49). Jordan provides means for identifying the patient's data, in the form of text,

within a medical image and removing such text from the image (see column 8/50-54 and figures 6A-6D).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siegel by Jordan in order to apply Siegel's method to medical diagnostic images for the purposes of removing textual indicia representative of a patient's identity, as claimed, since Siegel teaches redacting textual data from images, in general, and Jordan teaches the desirability of selectively identifying and removing portions of text specifically from medical images in order to protect the privacy of the corresponding patients.

Siegel also does not appear to disclose that vertically oriented text is identified, as claimed. Rather, Siegel illustrates the identification of only horizontal text, as shown in figure 5.

Ittner discloses a method for determining the orientation of lines of text in an image. In particular, Ittner recognizes that an image may contain both vertically and horizontally oriented text, and in order to perform OCR on text, it is necessary to ascertain its orientation (column 1/9-32). Accordingly, Ittner teaches a routine that determines the orientation of text contained in an image (see figure 3). In view of these teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Siegel by Ittner to achieve the claimed invention by identifying regions in the image containing text in either a vertical or horizontal orientation so that suitable OCR processing can be carried out for differently oriented text.

The above rejection is equally applicable to claims 8 and 11.

Regarding claim 17, Siegel discloses the desired indicia include indicia providing a general description of the image subject matter or a date (see e.g., figure 6: the text provides a general description of the subject matter of the image).

Regarding claim 18, Siegel discloses the replacement data masks the one or more region with a substantially uniform pixel intensity (see e.g., figure 6).

Regarding claim 27, the combination of Siegel and Jordan teaches producing an image generated by the method of claim 15 and stored in a computer-readable medium (i.e. the product produced by the claimed method).

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Colin M. LaRose whose telephone number is (571) 272-7423. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Werner, can be reached on (571) 272-7401. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000. Any inquiry of a general nature or relating to the status of this application or proceeding can also be directed to the TC 2600 Customer Service Office whose telephone number is (571) 272-2600.

/Colin M. LaRose/
Colin M. LaRose
Primary Examiner
Group Art Unit 2624
18 June 2008